

**NDSTC CLEAN ROOM OPERATOR QUALIFICATION CARD**

Date Started \_\_\_\_\_

Name \_\_\_\_\_

**References:**

- (a) MIL-STD-1330D Precision Cleaning and Testing of Shipboard Oxygen, Helium Helium-Oxygen, Nitrogen and Hydrogen Systems
- (b) MIL-STD-1622 - Cleaning of Shipboard Compressed Air Systems
- (c) SS800-AG-MAN-010/P-9290 System Certification Procedures and Criteria Manual for Deep Submergence Systems
- (d) NDSTC-QA-00 - NDSTC Quality Assurance Manual
- (e) S6430-AE-TED-010 - Piping Devices, Flexible Hose Assemblies
- (f) S9086-H7-STM-010/CH-262 Lubricating Oils, Greases, Specialty Lubricants and Lubrication Systems
- (g) S9086-RK-STM-010/CH-505 NSTM, Piping Systems
- (h) S9086-SY-STM-010/CH-551NSTM, Compressed Air Plants and Systems
- (i) S9086-SX-STM-010/CH-550NSTM, Industrial Gases; Generating, Handling and Storage
- (j) OPNAVINST 5100.28 Hazardous Materials Users Guide
- (k) ST700-AM-GYD-020/OICR Oxygen Instrumentation Calibration Room Requirements and Operations Guide.

**1. Prerequisites:**

a. Complete course of instruction "MIL-STD-1330D PRECISION CLEANING AND TESTING OF NITROGEN AND HYDROGEN SYSTEMS" with a qualified NAVSEA instructor and successfully pass a written test. (Ref. a) 5.14.2.2 & 5.14.3

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

b. Qualify as a NDSTC Oxygen Clean Worker (Ref. a) 5.14.2.2 & 5.14.3

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

c. Qualify as NDSTC DLSS Maintenance Technician. (Ref. d)

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

**2. Knowledge Factors:**

a. Personnel working requirements (Ref. a) 5.1.6

- (1) Hygiene requirements
- (2) Clothing

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

b. Clean Room Maintenance (Ref. a) 5.1.2

- (1) Daily
- (2) Monthly

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

c. Clean Room Validation Re-certification (Ref. a) 5.15

- (1) Process
- (2) Forms

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

d. Safety / Hazardous Material (HAZMAT) (Ref. j)

- (1) Material Safety Data Sheet location and understanding of how to read
- (2) Location and hazards associated with various Clean Room HAZMAT chemicals
- (3) Personnel Protective Equipment
- (4) HAZMAT disposal

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

e. Material Receipt Inspection

- (1) Clean Room Work Request Form
- (2) Software and Component Drawings
- (3) Clean Room Work Log
- (4) Clean Room Unique OQE number
- (5) Determination of cleaning process

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

f. Hydrostatic Testing (Ref. a) 5.9 TABLE V & (Ref. g) 505-11.1.3, (Ref. e) B-4 & Appendix A

- (1) Component (Ref. d)
- (2) Hoses (Ref. e)
- (3) Flasks (CFR 249 D.O.T. Qualification required)

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

g. Pre-cleaning (Ref. a) 5.2, 5.3, 5.4 & 5.5 & (Ref. b)

- (1) Disassembly
- (2) Pre-cleaner Chemicals
- (3) Pre-clean process

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

h. Precision Cleaning Process (Ref. a) 5.2, 5.3, 5.4 & 5.5 & (Ref. b)

- (1) Component
- (2) Hoses
- (3) Flasks
- (4) Gages & Flow meters (Ref. k) & (Ref. e)

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

i. Analysis and Inspection (Ref. a) 5.2, 5.3, 5.4 & 5.5 & (Ref. b)

- (1) Non Volatile Residue
- (2) Infra-Red
- (3) Visual Inspection Criteria

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

j. Drying Process (Ref. a) 5.2, 5.3, 5.4 & 5.5 & (Ref. b)

- (1) Component
- (2) Hoses
- (3) Flasks

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

k. Reassembly (Ref. f) & (Ref. h) & (Ref. i)

- (1) Drawings
- (2) Torque
- (3) Lubrication

Qualifier: \_\_\_\_\_ Date:\_\_\_\_\_

l. Recertification Testing (Ref. a) 5.9 TABLE V & (Ref. c) B-4 & Appendix A

- (1) REC
- (2) Pressure Regulators

- (3) Hoses
- (4) Valves
- (5) Flasks

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

m. Packaging (Ref. a) 5.2, 5.3, 5.4 & 5.5 & (Ref. b)

- (1) Component
- (2) Hoses
- (3) Flasks

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

n. Fixed Clean Reporting System Documentation (Ref. c) B-4  
& Appendix A

- (1) Cleaning Oxygen Components Form
- (2) Cleaning Air Components Form
- (3) Hose Testing and Hydrostatic Testing Forms
- (4) Seat Tightness / Mechanical Joint Testing Form
- (5) Operational Testing Form
- (6) Controlled Assembly

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

### 3. Practical Factors:

Perform the following operations as a complete process under the direct supervision of a qualified Clean Room Operator:

a. Perform Clean Room Daily Maintenance (Ref. a) 5.1.2

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

b. Perform Clean Room Monthly Maintenance (Ref. a) 5.1.2

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

c. Oxygen Clean a Valve (Ref. a) 5.2

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

d. Oxygen Clean a Pressure Regulator (Ref. a) 5.2

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

e. Oxygen Clean a Hose or Pipe Assembly (Ref. a) 5.5

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

f. Oxygen Clean a Pressure Flask (Ref. a) 5.3

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

g. Perform a Hydrostatic Test (Ref. a) 5.9 TABLE V & (Ref. g) 505-11.1.3 & (Ref. c) Appendix A

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h. Perform Clean Room Verification (Ref. a) 5.15

Qualifier: \_\_\_\_\_ Date: \_\_\_\_\_

#### **4. Final Signatures**

Clean Room Division Officer \_\_\_\_\_ Date: \_\_\_\_\_

Quality Assurance Officer \_\_\_\_\_ Date: \_\_\_\_\_

Engineering Department Head \_\_\_\_\_ Date: \_\_\_\_\_